



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/836,081	04/17/2001	Norio Sakai	36856.466	8268

7590 11/03/2004
Keating & Bennett LLP
Suite 312
10400 Eaton Place
Fairfax, VA 22030

EXAMINER

CHAMBLISS, ALONZO

ART UNIT PAPER NUMBER

2814

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/836,081

Applicant(s)

SAKAI, NORIO

Examiner

Alonzo Chambliss

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,13-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,13-16 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/8/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 6/8/04 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1-4, 6, 13 -16, and 18 have been considered but are moot in view of the new ground(s) of rejection.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 6/8/04 was filed before the mailing date of the non-final rejection on 10/25/04. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

4. The formal drawings filed on 1/12/04 have been approved by the examiner.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6, 13-16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takubo et al. (6,329,610) in view of Tadaharu et al. (JP 6-268369).

With respect to Claims 1 and 13, Takubo discloses a laminated ceramic electronic component 10 (device of figures 1-3) comprising: a laminated member including a plurality of stacked ceramic layers (reference numbers 21 and 23) having a first ceramic layer (reference number 21) and a second ceramic layer (reference number 23) which is thinner than the first ceramic layer; wiring conductors provided for a certain layer of the ceramic layers and including a via-hole conductor (reference number 32 and 31) extending through the certain layer and a conductor (reference number 11a) extending along the principal surface of said certain layer, wherein the via-hole conductor includes first (reference number 31) and second (reference number 32) via-hole conductors having different sectional sizes. A wiring board (i.e. mother board) for mounting the laminated ceramic electronic component 10 thereon. Takubo fails to explicitly disclose the aspect ratio expressed by H/D is within the range of approximately

Art Unit: 2814

.1 to approximately 3, wherein H and D represent the height and radial length for each of the via hole conductors. However, Tadaharu discloses the aspect ratio expressed by H/D is within the range of approximately .1 to approximately 3 (i.e. .25), wherein H and D represent the height and radial length for the via hole conductors 3 (see English translation, paragraph 15). Thus, Takubo and Tadaharu have substantially the same environment of board with a via hole filled with conductive material. Therefore, one skilled in the art at the time of the invention would readily recognize having incorporate the aspect ratio of .25 for each via hole conductor of Takubo, since the aspect ratio would eliminate continuity defects due to the shortage of filling in a via hole and defects at the time of forming a wiring pattern due to the extrusion of a via land as taught by Tadaharu.

With respect to Claims 2, 3, 14, and 15, Takubo discloses wherein a first via hole conductor 31 extends through the first ceramic layer, a second via hole conductor 32 extends through the second ceramic layer, and the sectional size of the first via hole conductor is larger than that of the second via hole conductor since the land 11a, 12a attached to the first via hole conductor 31 is larger than the land 14a attached to the second via hole conductor 32. Therefore, all of the via hole conductors, the sectional size of the via hole conductor extending through the thicker ceramic layer is larger than that of the via hole conductor extending through the thinner ceramic layer (see col. 21 lines 22-25 and col. 22 lines 23-26; Figs. 1 and 3).

Art Unit: 2814

With respect to Claims 4 and 16, Tadaharu discloses wherein a plurality of the via hole conductors extending through the same ceramic layer have substantially the same sectional size (see English translation).

With respect to Claims 6 and 18, Takubo discloses wherein the plurality of ceramic layers 21, 23 inherently have substantially the same dielectric constant based on the composition of ceramic layers 21, 23 when both have a coefficient of thermal expansion of 13 to 15 ppm/⁰ C (see col. 17 lines 25-52).

The prior art made of record and not relied upon is cited primarily to show the product of the instant invention.

Conclusion

7. Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (571) 272-1927.

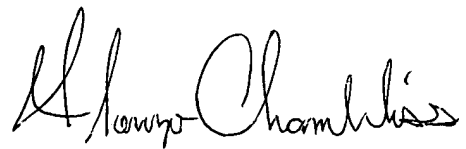
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system Status information for published applications may be obtained from either Private PMR or Public PMR. Status information for unpublished applications is available through Private PMR only. For more information about the PMR system see <http://pair-dkect.uspto.gov>. Should you have questions on access to the Private PMR

Art Unit: 2814

system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free)
or EBC_Support@uspto.gov.

AC/October 29, 2004

A handwritten signature in black ink, appearing to read "Alonzo Chambliss". The signature is fluid and cursive, with the first name "Alonzo" and last name "Chambliss" clearly distinguishable.

Alonzo Chambliss
Primary Patent Examiner
Art Unit 2814